Practice Question Handling User Authentication

Step by Step Documentation

1.Create a Auth class to match the username and password

2.Create aAuth test class and run the test class with junit .

3.Run the Junit right click on project **AuthenticateUser->runas->JunitTest**

Implementation

Pom.xml

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
<modelVersion>4.0.0</modelVersion>
<groupId>AuthenticateUser</groupId>
<artifactId>AuthenticateUser</artifactId>
<version>0.0.1-SNAPSHOT</version>
<dependencies>
<!-- JUnit Jupiter Engine -->
<dependency>
<groupId>org.junit.jupiter</groupId>
<artifactId>junit-jupiter-engine</artifactId>
<version>5.8.0</version>
<scope>test</scope>
</dependency>
<dependency>
<groupId>org.junit.jupiter</groupId>
<artifactId>junit-jupiter</artifactId>
<version>5.5.2</version>
</dependency>
<dependency>
<groupId>org.junit.jupiter</groupId>
<artifactId>junit-jupiter-api</artifactId>
```

```xml
<version>5.8.0</version>
<scope>test</scope>
</dependency>
<dependency>
<groupId>org.junit.platform</groupId>
<artifactId>junit-platform-launcher</artifactId>
<version>1.2.0</version>
</dependency>
</dependencies>
</project>
```

Authentication.class

```java
package com;
public class Authentication {
        public boolean isValidUser(String username, String password) {
        // Add your authentication logic here
        // For simplicity, this example always returns true for valid user
"username" with password "password"
        return username.equals("username") && password.equals("password");
        }

        public int Usercount(String username, String password) {
            int count=0;
            if(isValidUser(username,password)) {
                    count=1;
            }
            return count;
        }
    }
```

Authenticationtest.class

```java
package com;
import org.junit.jupiter.api.Test;
import org.junit.platform.runner.JUnitPlatform;
import org.junit.runner.RunWith;
import static org.junit.jupiter.api.Assertions.assertEquals;
import static org.junit.jupiter.api.Assertions.assertTrue;
import org.junit.Before;
import static org.junit.jupiter.api.Assertions.assertFalse;
@RunWith(JUnitPlatform.class)
public class AuthenticationTest {
private Authentication authentication;
```

```java
@Before
public void setUp() {
authentication = new Authentication();
}
@Test
public boolean testIsValidUser_ValidUser_ReturnsTrue() {
// Act
boolean result = authentication.isValidUser("username", "password");
return result;
}
@Test
public boolean testIsValidUser_InvalidUser_ReturnsFalse() {
// Act
boolean result = authentication.isValidUser("invalidUsername",
"invalidPassword");
return result;
}
@Test
public boolean testIsValidUser_NullUsername_ReturnsFalse() {
// Act
boolean result = authentication.isValidUser(null, "password");
return result;
}
@Test
public void Asserttests() {
        String usernameactual="username";
        String usernameexcepted="username";
        assertEquals(usernameactual,usernameexcepted);

}
}
```
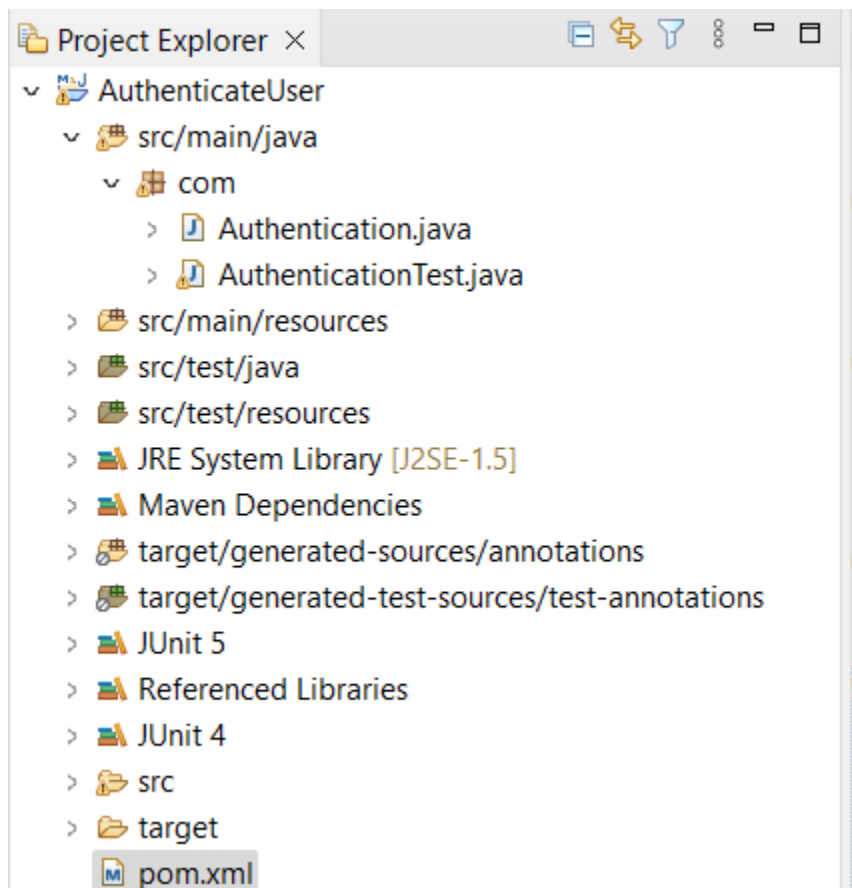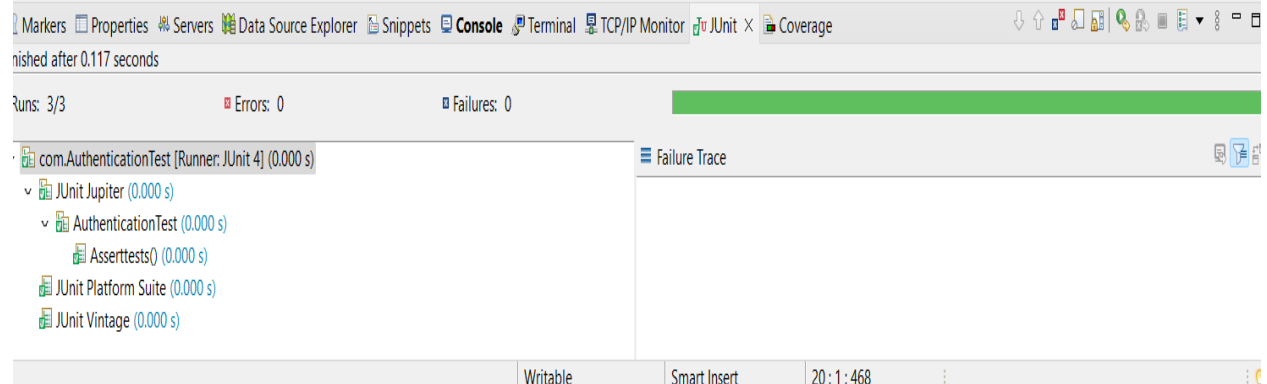
Output


```
25
26⊖     @Test
27      public boolean testIsValidUser_ValidUser_ReturnsTrue() {
28          // Act
29          boolean result = authentication.isValidUser("username", "password");
30          return result;
```

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nished after 0.117 seconds

Runs: 3/3   ⊠ Errors: 0   ⊠ Failures: 0

- com.AuthenticationTest [Runner: JUnit 4] (0.000 s)   ☰ Failure Trace
- ∨ JUnit Jupiter (0.000 s)
  - ∨ AuthenticationTest (0.000 s)
    - Asserttests() (0.000 s)
- JUnit Platform Suite (0.000 s)
- JUnit Vintage (0.000 s)

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```
48⊖    @Test
49     public void Asserttests() {
50         String usernameactual="username2";
51         String usernameexcepted="username";
52         assertEquals(usernameactual,usernameexcepted);
53
54     }
55 }
56
```

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inished after 0.171 seconds

Runs: 3/3	☒ Errors: 0	☒ Failures: 1

∨ 🔲 com.AuthenticationTest [Runner: JUnit 4] (0.039 s)
  ∨ 🔲 JUnit Jupiter (0.031 s)
    ∨ 🔲 AuthenticationTest (0.031 s)
      🔲 Asserttests() (0.031 s)
  🔲 JUnit Platform Suite (0.001 s)
  🔲 JUnit Vintage (0.001 s)

≡ Failure Trace

⌁ org.opentest4j.AssertionFailedError: expected: <username2> but was: <username>
≡ at com.AuthenticationTest.Asserttests(AuthenticationTest.java:52)
≡ at java.base/java.util.ArrayList.forEach(ArrayList.java:1511)
≡ at java.base/java.util.ArrayList.forEach(ArrayList.java:1511)